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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,153	02/21/2006	Raymond Krasinski	US 030277	1693
24737 7590 06/24/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
BITAR, NANCY				
ART UNIT		PAPER NUMBER		
2624				
MAIL DATE		DELIVERY MODE		
06/24/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/569,153

Applicant(s)

KRASINSKI, RAYMOND

Examiner

NANCY BITAR

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21/02/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's response to the last Office Action, filed 12/10/2008, has been entered and made of record.
2. No amendment has been made. Claims 1-20 are currently pending.
3. Applicant's arguments, see pages 5-8, filed 3/10/2009, with respect to claims 1-20 have been fully considered and are persuasive. The 102(c) rejection of claims 1-20 has been withdrawn. However, Upon further consideration a new ground of rejection is made in view Epstein et al (US 2002/0199107)
4. Note that the drawing is still not accepted by the Examiner. The drawings do not comply with 37 CFR 1.84 (o) where suitable legends are required by the Examiner for understanding of the drawing. In this case figures 1-4 contain only empty squares that are unclear and can not be understood by the examiner.

Drawings

5. The drawings are objected to because figures 1-4 do not comply with 37 CFR 1.84(0) where suitable descriptive legends may be used subject to approval by Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible

Examiner Notes

6. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1-18 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit¹, relying upon Supreme Court precedent², has indicated that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the “machine or transformation test”, whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity

¹ *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

² *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

(See *Flook*, 437 U.S. at 590"). While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

NOTE: Regarding the rejection of claims 1-18, please see the Memorandum dated May 15, 2008, "Clarification of Processes under 35 USC § 101" which may be viewed at the following web address:

http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section101_05_15_2008.pdf

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2-6, 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartung et al "Spread Spectrum Watermarking Malicious Attacks and Counterattacks" in view of Epstein et al (US 2002/0199107)

As to claims 1 and 19, Hartung et al teaches detecting a watermark in content (watermark retrieval, section 4), comprising the steps of:

utilizing only a subset of candidate counter watermark detection techniques for each time interval from a set of available counter watermark detection techniques from a set of available counter watermark detection techniques (in order to counter possible watermark attacks , The

attacked image is divided into blocks of arbitrary size as shown in Fig 5 for each of the blocks all possible combinations of shift, rotation, zoom etc) collectively referred to as modifications are applied as illustrated in Fig 6 and the correlation between the modified block and the original pseudo noise signal is calculated, section 4.4.1., lines 10-12; note that the combination of a particular shift, rotation, and zoom together with the correlation detector is interpreted as a counter watermark detection technique; (section 4.4.1, lines 21-23) . Hartung et al teaches from the total of 3.78 million combinations, only a smaller search space was used to detect an attacked watermark, therefore, a subset of all the possible techniques was used for each interval. Furthermore, Hartung et al teaches in section 4.4.1 line 24 that the modifications are applied in blocks which are temporarily neighbors which imply that a time interval is present.) ; and searching for a watermark utilizing one or more of said subset of candidate counter watermark detection techniques (section 4.4.1, lines 13-14; where a search is done to find the highest correlation). While Hartung meets a number of the limitations of the claimed invention, as pointed out more fully above, Hartung fails to specifically teach the counter watermark detection technique for *each* time interval. Specifically, Epstein et al. teaches collecting data associated with the content, evaluating the collected data to verify the presence of original data in the content, and rejecting the content if a number of errors detected during the evaluating step exceeds a threshold number of errors. Certain aspects of the method may vary depending on whether the content is analog or digital. In an illustrative embodiment, a determination is made as to a number of sections of content to evaluate. This determination is preferably a function of a desired level of security. Each of the sections includes a watermark embedded therein which uniquely identifies a corresponding section and contains information which may be used to

verify the presence of original data in the content. If the information does not verify correctly, an error counter is incremented. A random binding identification is destroyed if the error counter exceeds a threshold number of errors (see abstract) . Note that Epstein teaches in figure 3 upon entering the data collection component 20, the first step 116 is to start playing the song on the compact disk. The song may be any track on the disk. In step 118, a sample count is set to zero and the algorithm begins screening the content, one sample at a time. it would have been obvious to one of ordinary skill in the art to use the subset of candidate at each time interval in Hartung algorithm in order to minimize the likelihood of forgery, the entirety parameter is based on a hash of a composite of section-specific identifiers. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

As to claims 2 and 4, Hartung et al teaches the method of claim 1, wherein only a second subset of said available counter watermark detection techniques is implemented in a given watermark detector and wherein said first and second subsets of said pool of counter watermark detection techniques are the same (the total of 3.78 million combinations, only a smaller search space was used to detect an attacked watermark, therefore, a subset of all the possible techniques was used for each interval) section 4.4.1, lines 21-24; note that the second subset is interpreted as the same subset of claim 1) .

As to claim 3, Hartung et al teaches the method of claim 1, wherein a given watermark detector is provided said subset of available counter watermark detection techniques from a larger pool of available counter watermark detection techniques (section 4.4.1, line 26, small percentage(subset) is used ; figure 5).

The limitation of claims 5, 11-17 and 20 has been addressed in claim 1 except for the limitation “randomly selecting a particular counter watermark detection technique. It is obvious to one skilled in the art to use the randomly selecting or several other techniques in order to solve the problem of reducing the large search space taught by Hartung in order to make the implementation faster.

As to claim 6, Hartung et al teaches the method of claim 1, wherein said steps are repeated until a watermark is detected or all counter watermark detection techniques have been executed (section 4.4.1, lines 11-12; it is disclosed that all possible combinations (interpreted as “counter watermark detection technique” are applied).

As to claim 10, Hartung et al teaches the method of claim 1, further comprising the step of restarting said search for a watermark at a beginning of each of said time intervals (section 4.4.1; note that the search performed by the disclosed method has to be restarted at the beginning of each frame(time interval)).

As to claims 14-15 , Hartung et al teaches the method of claim 13, wherein only a subset of said available counter watermark detection techniques is implemented in a given watermark detector and wherein a given watermark detector is provided a subset of available counter watermark detection techniques from a larger pool of available counter watermark detection techniques (3.78 million combinations (pool of available counter watermark detection techniques; the search space is often much smaller since reasonable attacks cannot change the size and orientation of images too much, section 4.4.1, lines 22-28).

As to claim 16, Hartung et al teaches the method of claim 13, wherein said set of counter watermark detection techniques is selected randomly from all available counter watermark detection techniques (all available counter watermark ; Fig 5 for each of the blocks all possible combinations of shift, rotation, zoom etc) collectively referred to as modifications are applied as illustrated in Fig 6 and the correlation between the modified block and the original pseudo noise signal is calculated, section 4.4.1., lines 10-12)

As to claim 18, Hartung et al teaches the method of claim 13, wherein said steps are repeated until a watermark is detected or all counter watermark detection techniques have been executed (note that this is a one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances without the exercise of inventive skill, in order to solve the problem of detecting a watermark).
The limitation of claim 20 has been addressed above.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartung et al in view of Caldelli et al “ Authorized MPEG-4 video fruition via watermarking recovering and smart card certification”.

While Hartung et al. meets a number of the limitations of the claimed invention, as pointed out more fully above, Hartung fails to specifically teach “the step of disabling content access if a corrupted watermark is detected and the step of enabling content access if a valid watermark is detected and if no watermark has been found after all available counter watermark detection techniques have been executed”.

Specifically, Caldelli et al. teaches the use watermark to implement access rule where On the client side the FILE.mp4 is decoded according to the MPEG-4 IPMP interface (see figure 4) and both Video Elementary Streams and IPMP information are extracted. The IPMP Descriptor allows, through its three fields to understand which kind of medium we are dealing with (first field) and which IPMP specific system it is needed to extract authorization information (second field). If the client does not already possess this software (the watermarking detection DLL in our case), because of previous applications, it can download the library directly from the server routine database. Now the client is able to read the code embedded in the video content by providing to the watermarking detection library the video frames and the secret key which is located in the IPMP DATA field (third field) as it is depicted in the figure 6. After that, a matching operation between the code that has been read through the watermarking DLL (the client smart card code which represents the client) and the code contained in the client smart card will be carried on. If the matching is right, fruition will be authorized, otherwise it will not. Not to affect the playing, the code check can be performed with a sampling time that may be established depending on the particular application, or on the requested security level, or on the number of frame watermarked during the embedding phase (section 3.2). It would have been obvious to one of ordinary skill in the art to use the watermarks to implement access rules to

digital content to in Hartung in order to restrict the access of digital media to valid subscribers. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NANCY BITAR whose telephone number is (571)270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nancy Bitar/
Examiner, Art Unit 2624

/Vikram Bali/
Supervisory Patent Examiner, Art Unit 2624